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by title:

- Biochimica et biophy...

## Biochimica et biophysica acta. International journal of biochemistry and biophysics.

Alt. Title: BBA

International journal of biochemistry and biophysics

Imprint: Amsterdam [etc.]: Elsevier/North Holland [etc.] 1947-

Notes: Published intermittently in specialized sections.  
Articles in English, French, or German, with summaries in English, French, and German.

ISSN: 0006-3002

Subjects: Biological chemistry -- Periodicals.  
Biophysics -- Periodicals.

Description: v : ill.; 25 cm.

## MARC Display

## Copy/Holding information

Collection	Call No.	Copy	Status
Biotechnology and Chemical Library Microfilm	QD1 .B5 Microfilm	v.1140-1144 (Nov. 1992-Oct. 1993) c.1	Available
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Biotechnology and Chemical Library Microfilm	QD1 .B5 Microfilm	v.1228-1238 (1995) c.1	Available
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Biotechnology and Chemical Library Microfilm	QD1 .B5 Microfilm	v.1250-1260 (1995) c.1	Available
Biotechnology and Chemical Library Microfilm	QD1 .B5 Microfilm	v.1261-1272 (1995) c.1	Available
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ANSWER 9 OF 14 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1995:30184 BIOSIS

DN PREV199598044484

TI Distribution of immunoreactive malondialdehyde-modified  
low-density lipoprotein in human serum.

AU Kotani, Kazuo [Reprint author]; Maekawa, Masato; Kanno, Takashi; Kondo,  
Akira; Toda, Naoko; Manabe, Mitsuhiisa

CS Dep. Lab. Med., Hamamatsu Univ. Sch. Med., Hamamatsu, Handa-cho 3600,  
Shizuoka 431-31, Japan

SO Biochimica et Biophysica Acta, (1994) Vol. 1215, No. 1-2, pp. 121-125.  
CODEN: BBACAQ. ISSN: 0006-3002.

DT Article

LA English *microfilm*

ED Entered STN: 25 Jan 1995  
Last Updated on STN: 25 Jan 1995

AB We developed a sensitive enzyme-linked immunosorbent assay (ELISA) for  
detection of malondialdehyde-modified low-  
density lipoprotein (MDA-LDL) in human serum. A  
monoclonal antibody against MDA-LDL (ML25) used in our method  
recognized not only MDA-LDL but also other MDA-modified proteins.  
However, MDA-LDL was able to be detected specifically by using a  
combination of ML25 and an antibody specific for apolipoprotein  
B (apo B) (AB16), which was conjugated with beta-galactosidase. Using  
this method, measurable amounts of MDA-LDL were detected in the sera of 40  
healthy individuals. MDA-LDL was observed to be mainly distributed in the  
human LDL fraction separated by density gradient ultracentrifugation,  
while in each lipoprotein subtraction the largest amount of MDA-LDL per  
protein was found at a subfraction between LDL and HDL. The particle size  
of LDL in this fraction was smaller than that of LDL in the main LDL  
fraction, as assessed by electrophoresis. In addition, LDL oxidized by  
Cu-2+ was also detectable with this method. We conclude that our method  
is sensitive and specific for MDA-LDL and might be useful for  
investigating MDA-LDL in the human circulation.

CC Clinical biochemistry - General methods and applications 10006  
Biochemistry methods - Proteins, peptides and amino acids 10054  
Biochemistry studies - Proteins, peptides and amino acids 10064  
Biochemistry studies - Lipids 10066  
Biochemistry studies - Carbohydrates 10068  
Biochemistry studies - Minerals 10069  
Biophysics - Molecular properties and macromolecules 10506  
Enzymes - Methods 10804  
Metabolism - Lipids 13006  
Metabolism - Proteins, peptides and amino acids 13012  
Blood - Blood and lymph studies 15002  
Immunology - General and methods 34502

IT Major Concepts  
Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport  
and Circulation); Clinical Chemistry (Allied Medical Sciences);  
Enzymology (Biochemistry and Molecular Biophysics); Immune System  
(Chemical Coordination and Homeostasis); Metabolism

IT Miscellaneous Descriptors  
ANALYTICAL METHOD; COPPER OXIDIZED LOW  
DENSITY LIPOPROTEIN; ELISA; IMMUNOLOGIC METHOD;  
MONOCLONAL ANTIBODY AB16; MONOCLONAL ANTIBODY ML25;  
PARTICLE SIZE

ORGN Classifier  
Hominidae 86215  
Super Taxa  
Primates; Mammalia; Vertebrata; Chordata; Animalia  
Organism Name  
Hominidae  
Taxa Notes  
Animals, Chordates, Humans, Mammals, Primates, Vertebrates

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by title:

- Arteriosclerosis :  
a...

MARC Display

**Arteriosclerosis : an official journal of the American Heart Association, Inc.**

Alt. Title: Journal of vascular biology and disease 1981-8  
Author: American Heart Association.  
Imprint: Dallas, Tex. : The Association, [1981]-c1990.  
Notes: Cover title.  
Microfilm. Ann Arbor, Mich. : University Microfilms International, microfilm cartridges ; 16 mm.  
ISSN: 0276-5047  
Subjects: Arteriosclerosis -- Periodicals.  
Description: 10 v. : ill. ; 28 cm.  
Continued by: Arteriosclerosis and thrombosis

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Status: Not Currently Received  
Media Type: film  
Notes: Cancelled with Dec. 1999.

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AN 1990:328218 BIOSIS

DN PREV199090036237; BA90:36237

TI ANTISERA AND MONOCLONAL ANTIBODIES SPECIFIC FOR EPITOPES  
GENERATED DURING OXIDATIVE MODIFICATION OF LOW DENSITY LIPOPROTEIN.

AU PALINSKI W [Reprint author]; YLA-HERTTUALA S; ROSENFELD M E; BUTLER S W;  
SOCHER S A; PARTHASARATHY S; CURTISS L K; WITZTUM J L

CS DIV ENDOCRINOL METAB, DEP MED M-013D, UNIV CALIF SAN DIEGO, LA JOLLA,  
CALIF 92093, USA

SO Arteriosclerosis, (1990) Vol. 10, No. 3, pp. 325-335.

CODEN: ARTRDW. ISSN: 0276-5047.

DT Article

FS BA

LA ENGLISH

ED Entered STN: 24 Jul 1990

Last Updated on STN: 24 Jul 1990

AB Increasing evidence indicates that low density lipoprotein (LDL) has to be  
modified to induce foam cell formation. One such modification, oxidation  
of LDL, generates a number of highly reactive short chain-length aldehydic  
fragments of oxidized fatty acids capable of conjugating with lysine  
residues of apoprotein B. By immunizing animals with homologous  
malondialdehyde-modified LDL (MDA-LDL), 4-hydroxynonenal-LDL (4-HNE-LDL),  
and Cu++-oxidized LDL, we developed polyvalent and monoclonal  
antibodies against three epitopes found in oxidatively modified  
LDL. The present article characterizes an antiserum and monoclonal  
antibody (MAL-2 and MDA2, respectively) specific for MDA-lysine,  
and an antiserum and monoclonal antibody (HNE-6 and NA59,  
respectively) specific for 4-HNE-lysine. In addition, a monoclonal  
antibody (OLF4-3C10) was developed against an as yet undefined  
epitope generated during Cu++ oxidation of LDL. With these  
antibodies, we demonstrated that MDA-lysine and 4-HNE-lysine  
adducts develop on apo-lipoprotein B during copper-induced oxidation of  
LDL in vitro. The application of these antibodies for  
immunocytochemical demonstration of oxidized lipoproteins in  
atherosclerotic lesions of progressive severity is described in the  
companion article. These antibodies should prove useful in  
studying the role of oxidatively modified lipoproteins as well as other  
oxidatively modified proteins in atherogenesis.

CC Biochemistry studies - General 10060  
Biochemistry studies - Proteins, peptides and amino acids 10064  
Biochemistry studies - Lipids 10066  
Biochemistry studies - Sterols and steroids 10067  
Biochemistry studies - Minerals 10069  
Pathology - Diagnostic 12504  
Pathology - Therapy 12512  
Metabolism - Energy and respiratory metabolism 13003  
Metabolism - Lipids 13006  
Metabolism - Sterols and steroids 13008  
Metabolism - Proteins, peptides and amino acids 13012  
Metabolism - Metabolic disorders 13020  
Cardiovascular system - Blood vessel pathology 14508  
Blood - Blood and lymph studies 15002  
Blood - Blood cell studies 15004  
Blood - Lymphatic tissue and reticuloendothelial system 15008  
Routes of immunization, infection and therapy 22100  
Immunology - General and methods 34502

IT Major Concepts

Blood and Lymphatics (Transport and Circulation); Cardiovascular  
Medicine (Human Medicine, Medical Sciences); Immune System (Chemical  
Coordination and Homeostasis); Metabolism; Pathology

IT Miscellaneous Descriptors

HUMAN GUINEA-PIG GOAT 4 HYDROXYNONENAL LOW DENSITY LIPOPROTEIN  
MALONDIALDEHYDE-MODIFIED LOW

microfilm

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AN 1990:328218 BIOSIS

DN PREV199090036237; BA90:36237

TI ANTISERA AND MONOCLONAL ANTIBODIES SPECIFIC FOR EPITOPES  
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CC Biochemistry studies - General 10060  
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Blood - Lymphatic tissue and reticuloendothelial system 15008  
Routes of immunization, infection and therapy 22100  
Immunology - General and methods 34502

IT Major Concepts

Blood and Lymphatics (Transport and Circulation); Cardiovascular  
Medicine (Human Medicine, Medical Sciences); Immune System (Chemical  
Coordination and Homeostasis); Metabolism; Pathology

IT Miscellaneous Descriptors

HUMAN GUINEA-PIG GOAT 4 HYDROXYNONENAL LOW DENSITY LIPOPROTEIN  
MALONDIALDEHYDE-MODIFIED LOW

DENSITY LIPOPROTEIN COPPER-OXIDIZED  
LOW DENSITY LIPOPROTEIN FATTY ACID LYSINE  
APOPROTEIN B FOAM CELL FORMATION HYPERCHOLESTEROLEMIA ATHEROSCLEROSIS  
IMMUNOCYTOCHEMISTRY IMMUNIZATION

ORGN Classifier

Bovidae 85715

Super Taxa

Artiodactyla; Mammalia; Vertebrata; Chordata; Animalia

Taxa Notes

Animals, Artiodactyls, Chordates, Mammals, Nonhuman Vertebrates,  
Nonhuman Mammals, Vertebrates

ORGN Classifier

Hominidae 86215

Super Taxa

Primates; Mammalia; Vertebrata; Chordata; Animalia

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

ORGN Classifier

Caviidae 86300

Super Taxa

Rodentia; Mammalia; Vertebrata; Chordata; Animalia

Taxa Notes

Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals,  
Rodents, Vertebrates

RN 75899-68-2 (4-HYDROXYNONENAL)

542-78-9 (MALONDIALDEHYDE)

56-87-1Q (LYSINE)

70-54-2Q (LYSINE)

DENSITY LIPOPROTEIN COPPER-OXIDIZED  
LOW DENSITY LIPOPROTEIN FATTY ACID LYSINE  
APOPROTEIN B FOAM CELL FORMATION HYPERCHOLESTEROLEMIA ATHEROSCLEROSIS  
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RN 75899-68-2 (4-HYDROXYNONENAL)

542-78-9 (MALONDIALDEHYDE)

56-87-1Q (LYSINE)

70-54-2Q (LYSINE)



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by title:

- Diabetic medicine [e...

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## Diabetic medicine [electronic resource].

Author: British Diabetic Association

Imprint: [Oxford] : Blackwell Science,

URL: <http://search.epnet.com/direct.asp?db=aph&jid=%22F07%22&scope=site> Click here for Online version via Academic Search Premium (ASP). Jan 1999-

Notes: Available on ADONIS, v. 8, no. 1 (1991) - v. 19, no. 12 (2002)  
Electronic journal articles are available in portable document format (PDF). Abstracts are in HTML format.  
Electronic version of: Diabetic medicine.  
System requirements: World Wide Web browser, Internet connectivity, and Adobe Acrobat reader.  
Mode of access: World Wide Web.  
Journal of the British Diabetic Association.

ISSN: 0742-3071

Subjects: Diabetes. -- Periodicals.

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ANSWER 14 OF 14 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN

AN 97281078 EMBASE

DN 1997281078

TI Autoantibodies to oxidized low density lipoprotein: The relationship to low density lipoprotein fatty acid composition in diabetes.

AU Griffin M.E.; McInerney D.; Fraser A.; Johnson A.H.; Collins P.B.; Owens D.; Tomkin G.H.

CS Prof. G.H. Tomkin, 1, Fitzwilliam Square, Dublin 2, Ireland

SO Diabetic Medicine, (1997) Vol. 14, No. 9, pp. 741-747. .

Refs: 34

ISSN: 0742-3071 CODEN: DIMEEV

CY United Kingdom

DT Journal; Article

FS 006 Internal Medicine

018 Cardiovascular Diseases and Cardiovascular Surgery

029 Clinical Biochemistry

LA English

SL English

ED Entered STN: 2 Oct 1997

Last Updated on STN: 2 Oct 1997

AB Autoantibodies to oxidized low density

lipoprotein have been shown to be an independent predictor of the progression of carotid atherosclerosis. This study examines the relationship between low density lipoprotein fatty acid composition and autoantibodies to both malondialdehyde-modified and copper-oxidized low density lipoprotein in non-diabetic patients with (n = 17), and without (n = 18), definite evidence of previous myocardial infarction. The third group were non-insulin-dependent diabetic patients with no evidence of atherosclerosis (n = 15) and the fourth group were patients with non-insulin-dependent diabetes (n = 17) who had definite evidence of previous myocardial infarction. Fatty acids were measured by gas-liquid chromatography. Antibodies to malondialdehyde-modified low density lipoprotein and copper-oxidized low density lipoprotein were determined by an ELISA method. Autoantibodies to copper-oxidized low density lipoprotein were significantly higher in the non-diabetic patients with heart disease when compared to any other group (p < 0.05). Autoantibodies to malondialdehyde-modified low density lipoprotein were significantly higher in the non-diabetic subjects with heart disease and in both diabetic groups compared to non-diabetic subjects without coronary heart disease (p < 0.05). Linoleic acid (%) in low density lipoprotein did not differ between groups but arachidonic acid (%) was significantly lower in both diabetic and non-diabetic patients with coronary heart disease (p < 0.05). The diabetic patients with low antibodies had 39.6 ± 2.2% polyunsaturated fatty acids in their low density lipoprotein while diabetic patients with high antibodies had 46.7 ± 1.2% polyunsaturates in their low density lipoprotein (p < 0.01). This study confirms the association between antibodies to oxidized low density lipoprotein and coronary heart disease and shows raised low density lipoprotein antibody levels in diabetic patients with and without demonstrable atherosclerosis. In the diabetic patients, those with high antibody levels had high polyunsaturated fatty acid levels in their LDL suggesting a possible role for dietary intervention.

CT Medical Descriptors:

\*heart infarction

\*lipid composition

\*non insulin dependent diabetes mellitus  
adult

*adonis*

aged  
article  
atherosclerosis  
controlled study  
female  
human  
ischemic heart disease  
lipid oxidation  
major clinical study  
male

Drug Descriptors:

\*autoantibody: EC, endogenous compound

\*copper

\*fatty acid: EC, endogenous compound

\*malonaldehyde

  \*oxidized low density lipoprotein: EC, endogenous compound

arachidonic acid: EC, endogenous compound

linoleic acid: EC, endogenous compound

polyunsaturated fatty acid: EC, endogenous compound

RN (copper) 15158-11-9, 7440-50-8; (malonaldehyde) 542-78-9; (arachidonic acid) 506-32-1, 6610-25-9, 7771-44-0; (linoleic acid) 1509-85-9, 2197-37-7, 60-33-3, 822-17-3

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10/802, 643  
13000K 8/10/06

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FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 16:49:10 ON 09  
AUG 2006

L1 25065 S (ASSOCIAT? CONSTANT)  
L2 3 S L1 AND MDA?  
L3 3 S L1 AND MDA?  
L4 1208 S L1 AND OXID?  
L5 0 S L3 AND L4  
L6 2 DUPLICATE REMOVE L3 (1 DUPLICATE REMOVED)  
L7 62 S L1 AND LDL?  
L8 0 S L7 AND MDA?  
L9 8 S L7 AND OXI?  
L10 2 DUPLICATE REMOVE L9 (6 DUPLICATES REMOVED)

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AUG 2006

L11 2180 S (ASSOCIAT? CONSTANT) AND ANTIBOD?  
L12 262 S L1 AND OPTIMI?  
L13 5 S L12 AND REVIEW?  
L14 2 DUPLICATE REMOVE L13 (3 DUPLICATES REMOVED)  
L15 222 S L1 AND REVIEW?  
L16 0 S L1 AND ML25  
L17 19 S L15 AND ANTIBOD?  
L18 16 DUPLICATE REMOVE L17 (3 DUPLICATES REMOVED)

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L1 25065 S (ASSOCIAT? CONSTANT)  
L2 3 S L1 AND MDA?  
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L5 0 S L3 AND L4  
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L7 62 S L1 AND LDL?  
L8 0 S L7 AND MDA?  
L9 8 S L7 AND OXI?  
L10 2 DUPLICATE REMOVE L9 (6 DUPLICATES REMOVED)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 17:09:23 ON 09  
AUG 2006

L11 2180 S (ASSOCIAT? CONSTANT) AND ANTIBOD?  
L12 262 S L1 AND OPTIMI?  
L13 5 S L12 AND REVIEW?  
L14 2 DUPLICATE REMOVE L13 (3 DUPLICATES REMOVED)  
L15 222 S L1 AND REVIEW?  
L16 0 S L1 AND ML25  
L17 19 S L15 AND ANTIBOD?  
L18 16 DUPLICATE REMOVE L17 (3 DUPLICATES REMOVED)

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(FILE 'HOME' ENTERED AT 16:48:51 ON 09 AUG 2006)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 16:49:10 ON 09  
AUG 2006

L1	25065 S (ASSOCIAT? CONSTANT)
L2	3 S L1 AND MDA?
L3	3 S L1 AND MDA?
L4	1208 S L1 AND OXID?
L5	0 S L3 AND L4
L6	2 DUPLICATE REMOVE L3 (1 DUPLICATE REMOVED)
L7	62 S L1 AND LDL?
L8	0 S L7 AND MDA?
L9	8 S L7 AND OXI?
L10	2 DUPLICATE REMOVE L9 (6 DUPLICATES REMOVED)

=>

ANSWER 42 OF 50 MEDLINE on STN

AN 95323498 MEDLINE  
DN PubMed ID: 7541296  
TI Immunologic detection and measurement of hypochlorite-modified LDL with specific monoclonal antibodies.  
AU Malle E; Hazell L; Stocker R; Sattler W; Esterbauer H; Waeg G  
CS Karl-Franzens University, Institutes of Medical Biochemistry, Graz, Austria.  
SO Arteriosclerosis, thrombosis, and vascular biology, (1995 Jul) Vol. 15, No. 7, pp. 982-9.  
Journal code: 9505803. ISSN: 1079-5642.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199508  
ED Entered STN: 22 Aug 1995  
Last Updated on STN: 3 Feb 1997  
Entered Medline: 10 Aug 1995  
AB Oxidation of LDL is thought to contribute to the early stages of atherogenesis. Because myeloperoxidase is present in atherosclerotic lesions and can produce the strong oxidant hypochlorous acid (HOCl), which converts LDL into its high-uptake atherogenic form in vitro, we raised polyclonal and monoclonal antibodies (MoAbs) against HOCl-modified LDL (HOCl-LDL). Characterization of the polyclonal anti-human HOCl-LDL Abs showed that they cross-reacted strongly with 4-hydroxynonenal-, malondialdehyde-, and Cu(2+)-oxidized LDL. Similarly, polyclonal and some monoclonal Abs against aldehyde- and Cu(2+)-modified LDL cross-reacted with HOCl-LDL. In contrast to the polyclonal Abs, two selected hybridoma cell line supernatants containing MoAbs raised against HOCl-LDL (MoAb-A and MoAb-B) did not cross-react with either native LDL or aldehyde- or Cu(2+)-modified LDL. MoAb-A (clone 1B10A11, subtype IgG1 kappa) recognized an epitope that appeared to be specific for HOCl-LDL and depended on the tertiary structure of the (lipo)protein, as judged by a lack of cross-reactivity with HOCl-modified human and bovine serum albumin and a loss of reactivity associated with lipoprotein denaturation. MoAb-B (clone 2D10G9, subtype IgG2b kappa), on the other hand, gave identical titration curves with HOCl-LDL and HOCl-modified albumins, suggesting that this antibody recognized epitopes that are commonly generated on proteins that have been oxidized with HOCl. Thus, MoAb-A and MoAb-B may be useful tools for the investigation of a possible role for HOCl-mediated damage to (lipo)proteins in atherosclerosis and other inflammatory diseases.  
CT Aldehydes: PD, pharmacology  
Animals  
\*Antibodies, Monoclonal  
Antibodies, Monoclonal: IM, immunology  
Antibody Specificity  
Binding, Competitive  
Blotting, Western  
Copper: PD, pharmacology  
\*Enzyme-Linked Immunosorbent Assay  
Epitopes: IM, immunology  
\*Hypochlorous Acid: PD, pharmacology  
Kinetics  
\*Lipoproteins, LDL: AN, analysis  
Lipoproteins, LDL: CH, chemistry  
Rabbits  
Research Support, Non-U.S. Gov't  
Serum Albumin: IM, immunology  
RN 7440-50-8 (Copper); 7790-92-3 (Hypochlorous Acid)  
CN 0 (Aldehydes); 0 (Antibodies, Monoclonal); 0 (Epitopes); 0

ANSWER 42 OF 50 MEDLINE on STN

AN 95323498 MEDLINE

DN PubMed ID: 7541296

TI Immunologic detection and measurement of hypochlorite-modified LDL with specific monoclonal antibodies.

AU Malle E; Hazell L; Stocker R; Sattler W; Esterbauer H; Waeg G

CS Karl-Franzens University, Institutes of Medical Biochemistry, Graz, Austria.

SO Arteriosclerosis, thrombosis, and vascular biology, (1995 Jul) Vol. 15, No. 7, pp. 982-9.  
Journal code: 9505803. ISSN: 1079-5642.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199508

ED Entered STN: 22 Aug 1995  
Last Updated on STN: 3 Feb 1997  
Entered Medline: 10 Aug 1995

AB Oxidation of LDL is thought to contribute to the early stages of atherogenesis. Because myeloperoxidase is present in atherosclerotic lesions and can produce the strong oxidant hypochlorous acid (HOCl), which converts LDL into its high-uptake atherogenic form in vitro, we raised polyclonal and monoclonal antibodies (MoAbs) against HOCl-modified LDL (HOCl-LDL). Characterization of the polyclonal anti-human HOCl-LDL Abs showed that they cross-reacted strongly with 4-hydroxynonenal-, malondialdehyde-, and Cu(2+)-oxidized LDL. Similarly, polyclonal and some monoclonal Abs against aldehyde- and Cu(2+)-modified LDL cross-reacted with HOCl-LDL. In contrast to the polyclonal Abs, two selected hybridoma cell line supernatants containing MoAbs raised against HOCl-LDL (MoAb-A and MoAb-B) did not cross-react with either native LDL or aldehyde- or Cu(2+)-modified LDL. MoAb-A (clone 1B10A11, subtype IgG1 kappa) recognized an epitope that appeared to be specific for HOCl-LDL and depended on the tertiary structure of the (lipo)protein, as judged by a lack of cross-reactivity with HOCl-modified human and bovine serum albumin and a loss of reactivity associated with lipoprotein denaturation. MoAb-B (clone 2D10G9, subtype IgG2b kappa), on the other hand, gave identical titration curves with HOCl-LDL and HOCl-modified albumins, suggesting that this antibody recognized epitopes that are commonly generated on proteins that have been oxidized with HOCl. Thus, MoAb-A and MoAb-B may be useful tools for the investigation of a possible role for HOCl-mediated damage to (lipo)proteins in atherosclerosis and other inflammatory diseases.

CT Aldehydes: PD, pharmacology  
Animals  
\*Antibodies, Monoclonal  
Antibodies, Monoclonal: IM, immunology  
Antibody Specificity  
Binding, Competitive  
Blotting, Western  
Copper: PD, pharmacology  
\*Enzyme-Linked Immunosorbent Assay  
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\*Hypochlorous Acid: PD, pharmacology  
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\*Lipoproteins, LDL: AN, analysis  
Lipoproteins, LDL: CH, chemistry  
Rabbits  
Research Support, Non-U.S. Gov't  
Serum Albumin: IM, immunology

RN 7440-50-8 (Copper); 7790-92-3 (Hypochlorous Acid)

CN 0 (Aldehydes); 0 (Antibodies, Monoclonal); 0 (Epitopes); 0



(Lipoproteins, LDL); 0 (Serum Albumin)

(Lipoproteins, LDL); 0 (Serum Albumin)

AN 1996:439009 BIOSIS

DN PREV199699152615

TI Cloning of monoclonal autoantibodies to epitopes of oxidized lipoproteins from apolipoprotein E-deficient mice: Demonstration of epitopes of oxidized low density lipoprotein in human plasma.

AU Palinski, Wulf [Reprint author]; Horkko, Sohvi; Miller, Elizabeth; Steinbrecher, Urs P.; Powell, Henry C.; Curtiss, Linda K.; Witztum, Joseph L.

CS Dep. Med., 0682, Univ. California, San Diego, 9500 Gilman Drive, La Jolla, CA 92093-0682, USA

SO Journal of Clinical Investigation, (1996) Vol. 98, No. 3, pp. 800-814. CODEN: JCINAO. ISSN: 0021-9738.

DT Article

LA English

ED Entered STN: 26 Sep 1996

Last Updated on STN: 26 Sep 1996

AB Many reactive products may be formed when LDL undergoes lipid peroxidation, which in turn can react with lipids, apoproteins, and proteins, generating immunogenic neoepitopes. Autoantibodies recognizing model epitopes of oxidized low density lipoprotein, such as malondialdehyde-lysine, occur in plasma and in atherosclerotic lesions of humans and animals. Because apo E-deficient mice develop particularly high titers of such autoantibodies, we used their spleens to clone 13 monoclonal antibodies to various epitopes of oxidized LDL ("EO antibodies").

Binding and competitive RIAs demonstrated significant differences in fine specificity even between EO antibodies initially selected for binding to the same screening antigen. For example, some EO antibodies selected for binding to malondialdehyde-LDL also recognized copper

\* oxidized LDL, acrolein-LDL, or LDL

modified by arachidonic or linoleic acid oxidation products.

Circulating IgG and IgM autoantibodies binding to copper-

oxidized LDL. 4-hydroxynonenal-LDL, acrolein-

LDL, and LDL modified with arachidonic or linoleic acid

oxidation products were found in apo E-deficient mice, suggesting

that the respective antigens are formed in vivo. Epitopes recognized by

some of the EO monoclonal antibodies were also found on human

circulating LDL. Each of the EO monoclonal antibodies

immunostained rabbit and human atherosclerotic lesions, and some of them

yielded distinct staining patterns in advanced lesions. Together, this

suggests that the natural monoclonal antibodies recognize

different epitopes of complex structures formed during oxidation

of lipoproteins, or epitopes formed independently at different lesion

sites. Our data demonstrate that a profound immunological response to a

large number of different epitopes of oxidized lipoproteins

occurs in vivo. The availability of "natural" monoclonal autoantibodies

should facilitate the identification of specific epitopes inducing this

response.

CC Cytology - Animal 02506

Cytology - Human 02508

Genetics - Animal 03506

Genetics - Human 03508

Biochemistry - Gases 10012

Biochemistry methods - Proteins, peptides and amino acids 10054

Biochemistry methods - Lipids 10056

Biochemistry methods - Carbohydrates 10058

Biochemistry studies - Proteins, peptides and amino acids 10064

Biochemistry studies - Lipids 10066

Biochemistry studies - Carbohydrates 10068

Biophysics - Methods and techniques 10504

Biophysics - Molecular properties and macromolecules 10506

AN 1996:439009 BIOSIS  
DN PREV199699152615  
TI Cloning of monoclonal autoantibodies to epitopes of oxidized lipoproteins from apolipoprotein E-deficient mice: Demonstration of epitopes of oxidized low density lipoprotein in human plasma.  
AU Palinski, Wulf [Reprint author]; Horkko, Sohvi; Miller, Elizabeth; Steinbrecher, Urs P.; Powell, Henry C.; Curtiss, Linda K.; Witztum, Joseph L.  
CS Dep. Med., 0682, Univ. California, San Diego, 9500 Gilman Drive, La Jolla, CA 92093-0682, USA  
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DT Article  
LA English  
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CC Cytology - Animal 02506  
Cytology - Human 02508  
Genetics - Animal 03506  
Genetics - Human 03508  
Biochemistry - Gases 10012  
Biochemistry methods - Proteins, peptides and amino acids 10054  
Biochemistry methods - Lipids 10056  
Biochemistry methods - Carbohydrates 10058  
Biochemistry studies - Proteins, peptides and amino acids 10064  
Biochemistry studies - Lipids 10066  
Biochemistry studies - Carbohydrates 10068  
Biophysics - Methods and techniques 10504  
Biophysics - Molecular properties and macromolecules 10506

Biophysics - Membrane phenomena 10508  
Metabolism - General metabolism and metabolic pathways 13002  
Cardiovascular system - Anatomy 14502  
Cardiovascular system - Physiology and biochemistry 14504  
Cardiovascular system - Blood vessel pathology 14508  
Development and Embryology - Morphogenesis 25508  
Immunology - General and methods 34502  
Immunology - Immunopathology, tissue immunology 34508

IT Major Concepts

Biochemistry and Molecular Biophysics; Cardiovascular Medicine (Human Medicine, Medical Sciences); Cardiovascular System (Transport and Circulation); Cell Biology; Clinical Endocrinology (Human Medicine, Medical Sciences); Development; Genetics; Immune System (Chemical Coordination and Homeostasis); Membranes (Cell Biology); Metabolism

IT Miscellaneous Descriptors

ATHEROSCLEROSIS; IMMUNE SYSTEM

ORGN Classifier

Hominidae 86215

Super Taxa

Primates; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

Hominidae

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

ORGN Classifier

Muridae 86375

Super Taxa

Rodentia; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

Muridae

Taxa Notes

Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals, Rodents, Vertebrates

Biophysics - Membrane phenomena 10508  
Metabolism - General metabolism and metabolic pathways 13002  
Cardiovascular system - Anatomy 14502  
Cardiovascular system - Physiology and biochemistry 14504  
Cardiovascular system - Blood vessel pathology 14508  
Development and Embryology - Morphogenesis 25508  
Immunology - General and methods 34502  
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Super Taxa

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Organism Name

Hominidae

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

ORGN Classifier

Muridae 86375

Super Taxa

Rodentia; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

Muridae

Taxa Notes

Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals, Rodents, Vertebrates

d his

(FILE 'HOME' ENTERED AT 17:38:17 ON 09 AUG 2006)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 17:38:36 ON 09  
AUG 2006

L1 135 S 4E6?  
L2 307 S 8A2?  
L3 1 S L1 AND L2  
L4 94 S L1 AND ANTIBOD?  
L5 40 DUPLICATE REMOVE L4 (54 DUPLICATES REMOVED)  
L6 178 S L2 AND ANTIBOD?  
L7 59 DUPLICATE REMOVE L6 (119 DUPLICATES REMOVED)  
L8 3 S L7 AND LDL  
L9 14 S L5 AND LDL  
L10 45188 S MALONDIALDEHYDE?  
L11 28083 S L10 AND OX?  
L12 2202 S L11 AND LDL?  
L13 572 S L12 AND ANTIBOD?  
L14 128 S L13 AND BIND?  
L15 50 DUPLICATE REMOVE L14 (78 DUPLICATES REMOVED)

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L2	307 S 8A2?
L3	1 S L1 AND L2
L4	94 S L1 AND ANTIBOD?
L5	40 DUPLICATE REMOVE L4 (54 DUPLICATES REMOVED)
L6	178 S L2 AND ANTIBOD?
L7	59 DUPLICATE REMOVE L6 (119 DUPLICATES REMOVED)
L8	3 S L7 AND LDL
L9	14 S L5 AND LDL
L10	45188 S MALONDIALDEHYDE?
L11	28083 S L10 AND OX?
L12	2202 S L11 AND LDL?
L13	572 S L12 AND ANTIBOD?
L14	128 S L13 AND BIND?
L15	50 DUPLICATE REMOVE L14 (78 DUPLICATES REMOVED)

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10/802, 643  
4/COOL 8/10/06

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(FILE 'HOME' ENTERED AT 19:02:11 ON 09 AUG 2006)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 19:02:32 ON 09  
AUG 2006

L1 50 S (ANTIBOD? ASSOCIATION CONSTANT)  
L2 0 S L1 AND REVIEW?  
L3 30 DUPLICATE REMOVE L1 (20 DUPLICATES REMOVED)  
L4 25 S L3 AND PD<1998  
L5 0 S L4 NOT L3  
L6 5 S L3 NOT L4  
L7 1313 S OXLDL AND ANTIBOD?  
L8 170 S L7 AND MALONDIALDEHYDE?  
L9 5480 S (ANTIBOD? CROSS REACT?)  
L10 1 S L7 AND L9  
L11 26 S L9 AND LDL?  
L12 8 DUPLICATE REMOVE L11 (18 DUPLICATES REMOVED)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 19:25:52 ON 09  
AUG 2006

L13 222 S (ASSOCIATION CONSTANT) AND REVIEW?  
L14 178 DUPLICATE REMOVE L13 (44 DUPLICATES REMOVED)  
L15 16 S L14 AND ANTIBOD?  
L16 548879 S (MONOCLONAL ANTIBOD?)  
L17 792 S L16 AND (ASSOCIATION CONSTANT?)  
L18 2 S L17 AND REVIEW?  
L19 1 S (OPTIM? ASSOCIATION CONSTANT)  
L20 2 S (BEST ASSOCIATION CONSTANT)  
L21 1 DUPLICATE REMOVE L20 (1 DUPLICATE REMOVED)  
L22 3 S L14 AND MONOCLONAL?  
L23 3 DUPLICATE REMOVE L22 (0 DUPLICATES REMOVED)  
L24 8 S L14 AND ASSAY?  
L25 8 DUPLICATE REMOVE L24 (0 DUPLICATES REMOVED)

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L11 26 S L9 AND LDL?  
L12 8 DUPLICATE REMOVE L11 (18 DUPLICATES REMOVED)

=>

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AN 89215548 EMBASE

DN 1989215548

TI Biospecific interactions: Their quantitative characterization and use for solute purification.

AU Winzor D.J.; De Jersey J.

CS Department of Biochemistry, University of Queensland, St. Lucia, QLD 4067, Australia

SO Journal of Chromatography - Biomedical Applications, (1989) Vol. 492, pp. 377-430. .

ISSN: 0378-4347 CODEN: JCBADL

CY Netherlands

DT Journal

FS 029 Clinical Biochemistry

LA English

SL English

ED Entered STN: 12 Dec 1991

Last Updated on STN: 12 Dec 1991

AB Biospecificity is due largely to the formation and dissociation of non-covalent complexes between small molecules and macromolecules, or between two macromolecules. The first part of this review is concerned with the use of such biospecificity in the fractionation and identification of solutes. Major emphasis is given to affinity chromatography, especially in regard to the practical considerations inherent in an experimental situation and to the wide range of specific interactions that can be utilized. The second part of the review considers the quantitative characterization of biospecific complex formation. The merits of frontal gel chromatography, electrophoretic methods and affinity chromatography are discussed, and special consideration is given to the effects of ligand and/or acceptor multivalency because of its relevance to many biospecific interactions. Finally attention is drawn to the feasibility of employing quantitative affinity chromatographic theory for the determination of association constants for antigen-antibody systems by radioimmunoassay and enzyme-linked immunosorbent assay techniques.

CT Medical Descriptors:

\*affinity chromatography

\*antigen antibody reaction

\*complex formation

\*enzyme linked immunosorbent assay

\*molecular interaction

\*radioimmunoassay

review

methodology

priority journal

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\*molecular interaction

\*radioimmunoassay

review

methodology

priority journal

ANSWER 7 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1976:87772 CAPLUS  
DN 84:87772  
ED Entered STN: 12 May 1984  
TI Antigen-binding properties of antibody molecules: time-course  
dynamics and biological significance  
AU Macario, Alberto J. L.; Conway de Macario, Everly  
CS Div. Biol. Med. Sci., Brown Univ., Providence, RI, USA  
SO Current Topics in Microbiology and Immunology (1975), 71, 125-70  
CODEN: CTMIA3; ISSN: 0070-217X  
DT Journal; General Review  
LA English  
CC 15-0 (Immunochemistry)  
AB A review with .apprx.210 refs., on antibody-antigen  
reactions, kinetics (e. g., assocn. const.,  
heterogeneity index), and related cell interactions, maturation, and  
pathol.  
ST review antibody antigen kinetics  
IT Antibodies  
RL: BIOL (Biological study)  
(antigen reactions, kinetics of)  
IT Kinetics, reaction  
(of antibody-antigen complexes)

ANSWER 7 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN

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CODEN: CTMIA3; ISSN: 0070-217X  
DT Journal; General Review  
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reactions, kinetics (e. g., assocn. const.,  
heterogeneity index), and related cell interactions, maturation, and  
pathol.  
ST review antibody antigen kinetics  
IT Antibodies  
RL: BIOL (Biological study)  
(antigen reactions, kinetics of)  
IT Kinetics, reaction  
(of antibody-antigen complexes)

ANSWER 6 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1978:119182 CAPLUS

DN 88:119182

ED Entered STN: 12 May 1984

TI The antibody combining region: speculations on the hypothesis  
of general multispecificity

AU Inman, John K.

CS Natl. Inst. Allergy Infect. Dis., NIH, Bethesda, MD, USA

SO Immunology Series (1978), 8(Theor. Immunol.), 243-78

CODEN: IMSED7; ISSN: 0092-6019

DT Journal; General Review

LA English

CC 15-0 (Immunochemistry)

AB A review with many refs., on antibody active sites,  
hapten binding, and models for assocn. consts. and  
serol. crossreactions.

ST review antibody site model

IT Antibodies

RL: BIOL (Biological study)  
(active site)



ANSWER 6 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1978:119182 CAPLUS

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DT Journal; General Review

LA English

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hapten binding, and models for assocn. consts. and  
serol. crossreactions.

ST review antibody site model

IT Antibodies

RL: BIOL (Biological study)  
(active site)

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L17 792 S L16 AND (ASSOCIATION CONSTANT?)  
L18 2 S L17 AND REVIEW?  
L19 1 S (OPTIM? ASSOCIATION CONSTANT)  
L20 2 S (BEST ASSOCIATION CONSTANT)  
L21 1 DUPLICATE REMOVE L20 (1 DUPLICATE REMOVED)  
L22 3 S L14 AND MONOCLONAL?  
L23 3 DUPLICATE REMOVE L22 (0 DUPLICATES REMOVED)  
L24 8 S L14 AND ASSAY?  
L25 8 DUPLICATE REMOVE L24 (0 DUPLICATES REMOVED)

=>

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AN 1990:198024 BIOSIS

DN PREV199089104695; BA89:104695

TI MEASUREMENT OF ASSOCIATION CONSTANTS IN ELISA REACTIONS BETWEEN  
SOLID-PHASE BIOTINYLATED ANTIGEN.

AU MURRAY J S [Reprint author]; BROWN J C

CS DEP MICROBIOL, UNIV KANSAS, LAWRENCE, KANSAS 66405, USA

SO Journal of Immunological Methods, (1990) Vol. 127, No. 1, pp.  
25-28.

CODEN: JIMMBG. ISSN: 0022-1759.

DT Article

FS BA

LA ENGLISH

ED Entered STN: 24 Apr 1990  
Last Updated on STN: 24 Apr 1990

AB An ELISA procedure which utilized an avidin-peroxidase amplification  
reaction to detect and quantify the amount of fluid-phase biotinylated and  
antigen bound to solid-phase antibody was developed to determine  
antibody association constants. The  
methodology required is uncomplicated, avoids the use of radioisotopes,  
and is theoretically amenable for use with any protein which can be  
biotinylated, and any receptor protein which can be immobilized on plastic  
wells. A plot of known immobilized biotinylated antigen concentrations,  
which ranged from approximately 100 ng/ml to 1000 ng/ml, versus  
avidin-peroxidase conjugate product formation, was used to establish a  
standard curve from which the amount of antibody-associated antigen in  
binding assays could be determined. Antibody  
association constants obtained with this method ranged  
from 10<sup>5</sup> to 10<sup>9</sup> M<sup>-1</sup>.

CC Cytology - Animal 02506  
Biochemistry studies - Proteins, peptides and amino acids 10064  
Biochemistry studies - Carbohydrates 10068  
Enzymes - Methods 10804  
Immunology - General and methods 34502

IT Major Concepts  
Cell Biology; Enzymology (Biochemistry and Molecular Biophysics);  
Immune System (Chemical Coordination and Homeostasis)

IT Miscellaneous Descriptors  
MONOCLONAL ANTIBODIES

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AN 1990:198024 BIOSIS  
DN PREV199089104695; BA89:104695  
TI MEASUREMENT OF ASSOCIATION CONSTANTS IN ELISA REACTIONS BETWEEN  
SOLID-PHASE BIOTINYLATED ANTIGEN.  
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binding assays could be determined. Antibody  
association constants obtained with this method ranged  
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Biochemistry studies - Proteins, peptides and amino acids 10064  
Biochemistry studies - Carbohydrates 10068  
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IT Major Concepts  
Cell Biology; Enzymology (Biochemistry and Molecular Biophysics);  
Immune System (Chemical Coordination and Homeostasis)  
IT Miscellaneous Descriptors  
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**Journal of Chromatography B: Biomedical Sciences and Applications**

Volume 492, 8 August 1989, Pages 377-430

doi:10.1016/S0378-4347(00)84476-X

Cite or Link Using DOI

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**Review****Biospecific interactions: Their quantitative characterization and use for solute purification****Donald J. Winzor and John De Jersey**

Department of Biochemistry, University of Queensland, St. Lucia, Queensland 4067 Australia

Received 23 December 1988; revised 2 March 1989. Available online 21 January 2002.

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**Abstract**

Biospecificity is due largely to the formation and dissociation of non-covalent complexes between small molecules and macromolecules, or between two macromolecules. The first part of this review is concerned with the use of such biospecificity in the fractionation and identification of solutes. Major emphasis is given to affinity chromatography, especially in regard to the practical considerations inherent in an experimental situation and to the wide range of specific interactions that can be utilized. The second part of the review considers the quantitative characterization of biospecific complex formation. The merits of frontal gel chromatography, electrophoretic methods and affinity chromatography are discussed, and special consideration is given to the effects of ligand and/or acceptor multivalency because of its relevance to many biospecific interactions. Finally attention is drawn to the feasibility of employing quantitative affinity chromatographic theory for the determination of association constants for antigen-antibody systems by radioimmunoassay and enzyme-linked immunosorbent assay techniques.

**Author Keywords:**  $A_f$ -Valent solute (acceptor of ligand)  $K$  Equilibrium constant for solute self-association (molar scale)  $K'$  Equilibrium constant for solute self-association (weight scale)  $L$  Equilibrium constant for the association of monomer with immobilized monomer  $M$  Monomer undergoing self-association to polymer  $P$   $M_i$  Molecular weight of species  $i$   $P$

Polymeric form of self-associating monomer  $R_f$  Electrophoretic mobility of a species relative to that of bromophenol blue  $|ov|barR_f$  Relative constituent mobility of a species  $S$  Univalent ligand  $V_i$  Elution volume of species  $i$   $V_i^*$  Elution volume of  $i$  in the absence of interaction with  $|ov|barV_i$  Constituent elution volume of species  $i$   $X$   $q$ -Valent acceptor (receptor)  $c_i$  Weight concentration of uncomplexed species  $i$   $|ov|barc_i$  Total weight concentration of species  $i$   $f$  Valence of acceptor; or of partitioning solute (affinity chromatography)  $[i]$  Molar concentration of uncomplexed species  $i$   $[|ov|bari]$  Total molar concentration of species  $i$   $[|ov|bari]$  Total molar concentration of species  $i$  in partition studies  $k_{ij}$  Intrinsic association constant for the interaction between species  $i$  and  $j$   $k_T$  Intrinsic association constant for ternary complex formation  $n$  Stoichiometry of solute self-association  $q$  Valence of matrix sites  $r$  Klotz (Scatchard) binding function  $r_f$  Counterpart of  $r$  for an  $f$ -valent ligand  $v_i$  Electrophoretic mobility of species  $i$   $|ov|barv_i$  Constituent electrophoretic mobility of species  $i$  con A Concanavalin A ELISA Enzyme-linked immunosorbent assay EnOH Serine-dependent enzyme FPLC Fast protein liquid chromatography HPLAC High-performance liquid affinity chromatography HPLC High-performance liquid chromatography IEF Isoelectric focusing IgG Immunoglobulin G RIA Radioimmunoassay

## Journal of Chromatography B: Biomedical Sciences and Applications

Volume 492 , 8 August 1989, Pages 377-430

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FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 16:00:18 ON 09  
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L1 8899 S LDL AND ANTIBOD?  
L2 160 S L1 AND (BINDING AFFINITY)  
L3 1 S L2 AND REVIEW?  
L4 9 S L1 AND (BIND? CONSTANT)  
L5 3 DUPLICATE REMOVE L4 (6 DUPLICATES REMOVED)  
L6 160 S L2 NOT L4  
L7 5275 S P6 AND PD<1998  
L8 21 S L6 AND OXIDI?  
L9 12 DUPLICATE REMOVE L8 (9 DUPLICATES REMOVED)

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L6 160 S L2 NOT L4  
L7 5275 S P6 AND PD<1998  
L8 21 S L6 AND OXIDI?  
L9 12 DUPLICATE REMOVE L8 (9 DUPLICATES REMOVED)

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FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 09:41:36 ON 09  
AUG 2006

L1 2 S (HUMAN MALONDIALDEHYDE MODIFIED LOW DENSITY LIPOPROTEIN)  
L2 2 DUPLICATE REMOVE L1 (0 DUPLICATES REMOVED)  
L3 189 S (MALONDIALDEHYDE MODIFIED LOW DENSITY LIPOPROTEIN)  
L4 11299 S (OXID? LOW DENSITY LIPOPROTEIN)  
L5 / 56 S L4 AND L3  
L6 35 DUPLICATE REMOVE L5 (21 DUPLICATES REMOVED)  
L7 14 S L6 AND ANTIBOD?

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L4 11299 S (OXID? LOW DENSITY LIPOPROTEIN)  
L5 56 S L4 AND L3  
L6 35 DUPLICATE REMOVE L5 (21 DUPLICATES REMOVED)  
L7 14 S L6 AND ANTIBOD?

=>

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AN 97281078 EMBASE

DN 1997281078

TI Autoantibodies to oxidized low density lipoprotein: The relationship to low density lipoprotein fatty acid composition in diabetes.

AU Griffin M.E.; McInerney D.; Fraser A.; Johnson A.H.; Collins P.B.; Owens D.; Tomkin G.H.

CS Prof. G.H. Tomkin, 1, Fitzwilliam Square, Dublin 2, Ireland

SO Diabetic Medicine, (1997) Vol. 14, No. 9, pp. 741-747. .

Refs: 34

ISSN: 0742-3071 CODEN: DIMEEV

CY United Kingdom

DT Journal; Article

FS 006 Internal Medicine

018 Cardiovascular Diseases and Cardiovascular Surgery

029 Clinical Biochemistry

LA English

SL English

ED Entered STN: 2 Oct 1997

Last Updated on STN: 2 Oct 1997

AB Autoantibodies to oxidized low density

lipoprotein have been shown to be an independent predictor of the progression of carotid atherosclerosis. This study examines the relationship between low density lipoprotein fatty acid composition and autoantibodies to both malondialdehyde-modified and copper-oxidized low density lipoprotein in non-diabetic patients with (n = 17), and without (n = 18), definite evidence of previous myocardial infarction. The third group were non-insulin-dependent diabetic patients with no evidence of atherosclerosis (n = 15) and the fourth group were patients with non-insulin-dependent diabetes (n = 17) who had definite evidence of previous myocardial infarction. Fatty acids were measured by gas-liquid chromatography. Antibodies to malondialdehyde-modified low density lipoprotein and copper-oxidized low density lipoprotein were determined by an ELISA method. Autoantibodies to copper-oxidized low density lipoprotein were significantly higher in the non-diabetic patients with heart disease when compared to any other group (p < 0.05). Autoantibodies to malondialdehyde-modified low density lipoprotein were significantly higher in the non-diabetic subjects with heart disease and in both diabetic groups compared to non-diabetic subjects without coronary heart disease (p < 0.05). Linoleic acid (%) in low density lipoprotein did not differ between groups but arachidonic acid (%) was significantly lower in both diabetic and non-diabetic patients with coronary heart disease (p < 0.05). The diabetic patients with low antibodies had 39.6 ± 2.2% polyunsaturated fatty acids in their low density lipoprotein while diabetic patients with high antibodies had 46.7 ± 1.2% polyunsaturates in their low density lipoprotein (p < 0.01). This study confirms the association between antibodies to oxidized low density lipoprotein and coronary heart disease and shows raised low density lipoprotein antibody levels in diabetic patients with and without demonstrable atherosclerosis. In the diabetic patients, those with high antibody levels had high polyunsaturated fatty acid levels in their LDL suggesting a possible role for dietary intervention.

CT Medical Descriptors:

\*heart infarction

\*lipid composition

\*non insulin dependent diabetes mellitus  
adult

aged  
article  
atherosclerosis  
controlled study  
female  
human  
ischemic heart disease  
lipid oxidation  
major clinical study  
male

Drug Descriptors:

\*autoantibody: EC, endogenous compound

\*copper

\*fatty acid: EC, endogenous compound

\*malonaldehyde

\*oxidized low density lipoprotein: EC, endogenous compound

arachidonic acid: EC, endogenous compound

linoleic acid: EC, endogenous compound

polyunsaturated fatty acid: EC, endogenous compound

RN (copper) 15158-11-9, 7440-50-8; (malonaldehyde) 542-78-9; (arachidonic acid) 506-32-1, 6610-25-9, 7771-44-0; (linoleic acid) 1509-85-9, 2197-37-7, 60-33-3, 822-17-3

=>

ANSWER 9 OF 14 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1995:30184 BIOSIS

DN PREV199598044484

TI Distribution of immunoreactive malondialdehyde-modified  
low-density lipoprotein in human serum.

AU Kotani, Kazuo [Reprint author]; Maekawa, Masato; Kanno, Takashi; Kondo,  
Akira; Toda, Naoko; Manabe, Mitsuhsa

CS Dep. Lab. Med., Hamamatsu Univ. Sch. Med., Hamamatsu, Handa-cho 3600,  
Shizuoka 431-31, Japan

SO Biochimica et Biophysica Acta, (1994) Vol. 1215, No. 1-2, pp. 121-125.  
CODEN: BBACAQ. ISSN: 0006-3002.

DT Article

LA English

ED Entered STN: 25 Jan 1995  
Last Updated on STN: 25 Jan 1995

AB We developed a sensitive enzyme-linked immunosorbent assay (ELISA) for  
detection of malondialdehyde-modified low-  
density lipoprotein (MDA-LDL) in human serum. A  
monoclonal antibody against MDA-LDL (ML25) used in our method  
recognized not only MDA-LDL but also other MDA-modified proteins.  
However, MDA-LDL was able to be detected specifically by using a  
combination of ML25 and an antibody specific for apolipoprotein  
B (apo B) (AB16), which was conjugated with beta-galactosidase. Using  
this method, measurable amounts of MDA-LDL were detected in the sera of 40  
healthy individuals. MDA-LDL was observed to be mainly distributed in the  
human LDL fraction separated by density gradient ultracentrifugation,  
while in each lipoprotein subtraction the largest amount of MDA-LDL per  
protein was found at a subfraction between LDL and HDL. The particle size  
of LDL in this fraction was smaller than that of LDL in the main LDL  
fraction, as assessed by electrophoresis. In addition, LDL oxidized by  
Cu-2+ was also detectable with this method. We conclude that our method  
is sensitive and specific for MDA-LDL and might be useful for  
investigating MDA-LDL in the human circulation.

CC Clinical biochemistry - General methods and applications 10006  
Biochemistry methods - Proteins, peptides and amino acids 10054  
Biochemistry studies - Proteins, peptides and amino acids 10064  
Biochemistry studies - Lipids 10066  
Biochemistry studies - Carbohydrates 10068  
Biochemistry studies - Minerals 10069  
Biophysics - Molecular properties and macromolecules 10506  
Enzymes - Methods 10804  
Metabolism - Lipids 13006  
Metabolism - Proteins, peptides and amino acids 13012  
Blood - Blood and lymph studies 15002  
Immunology - General and methods 34502

IT Major Concepts  
Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport  
and Circulation); Clinical Chemistry (Allied Medical Sciences);  
Enzymology (Biochemistry and Molecular Biophysics); Immune System  
(Chemical Coordination and Homeostasis); Metabolism

IT Miscellaneous Descriptors  
ANALYTICAL METHOD; COPPER OXIDIZED LOW  
DENSITY LIPOPROTEIN; ELISA; IMMUNOLOGIC METHOD;  
MONOCLONAL ANTIBODY AB16; MONOCLONAL ANTIBODY ML25;  
PARTICLE SIZE

ORGN Classifier  
Hominidae 86215  
Super Taxa  
Primates; Mammalia; Vertebrata; Chordata; Animalia  
Organism Name  
Hominidae  
Taxa Notes  
Animals, Chordates, Humans, Mammals, Primates, Vertebrates

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(FILE 'HOME' ENTERED AT 12:58:10 ON 09 AUG 2006)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 12:58:27 ON 09  
AUG 2006

L1 22 S ML25 AND ANTIBOD?  
L2 7 DUPLICATE REMOVE L1 (15 DUPLICATES REMOVED)  
L3 0 S L2 AND CONSTANT?

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(FILE 'HOME' ENTERED AT 12:58:10 ON 09 AUG 2006)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 12:58:27 ON 09  
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L1 22 S ML25 AND ANTIBOD?  
L2 7 DUPLICATE REMOVE L1 (15 DUPLICATES REMOVED)  
L3 0 S L2 AND CONSTANT?

=>



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DUPLICATE 1

AN 2002:413901 BIOSIS

DN PREV200200413901

TI Single LDL apheresis improves serum remnant-like particle-cholesterol, C-reactive protein, and malondialdehyde-modified-low-density lipoprotein concentrations in Japanese hypercholesterolemic subjects.

AU Kobayashi, Junji [Reprint author]; Katsube, Susumu; Shimoda, Mayumi; Furuhashi, Kenji; Kitano, Shouichi; Masuda, Mizue; Maruyama, Tokiko; Shinomiya, Masaki

CS Department of Internal Medicine, Chibaken Saiseikai Narashino Hospital, 1-1-1 Izumi Chou, Narashino, Chiba, 275-0006, Japan  
maryland95@angel.ne.jp

SO Clinica Chimica Acta, (July, 2002) Vol. 321, No. 1-2, pp. 107-112. print.  
CODEN: CCATAR. ISSN: 0009-8981.

DT Article

LA English

ED Entered STN: 31 Jul 2002

Last Updated on STN: 31 Jul 2002

AB Background: Single low-density lipoprotein (LDL)-apheresis may affect serum remnant-like particle-cholesterol (RLP-C), C-reactive protein (CRP) and malondialdehyde-modified (MDA)-LDL concentrations. Subjects and methods: Six subjects with hypercholesterolemia (five men, one woman) were involved in this study. Mean age and body mass index of the study subjects were 58+3.1 years and 23.6+2.07 kg/m<sup>2</sup>, respectively. Five of the subjects were diagnosed as heterozygous familial hypercholesterolemia (FH) because of having both marked hypercholesterolemia and Achilles tendon xanthomas. LDL apheresis was introduced and continued using a dextran sulfate cellulose adsorption column technique every 2 weeks. Serum RLP-C was measured using an immunoaffinity mixed gel containing anti-apolipoprotein A-I and anti-apolipoprotein B monoclonal antibody. Serum CRP was measured by latex-enhanced assay. Serum MDA-LDL was measured using monoclonal antibody against MDA-LDL (ML25). Results: Combined treatment in the steady state pre-treatment yielded a total, LDL- and HDL-cholesterol, and TG concentrations of 5.39+0.81, 3.82+1.03, 1.24+0.29 and 0.92+0.43 mmol/l, respectively, and a post-treatment total, LDL- and HDL-cholesterol and TG concentrations of 2.79+0.37 (-48%, p<0.001), 1.63+0.29 (-57%, p<0.001), 1.18+0.26 (-5%, NS) and 0.23+0.11 mmol/l (-75%, p<0.001), respectively. Serum RLP-C and CRP concentrations showed a substantial reduction (-73%, p<0.05 for RLP-C; -56%, p<0.05 for CRP) during this procedure. In addition, LDL apheresis was found to also cause a marked reduction in serum MDA-LDL concentration (-61%, p<0.05). Conclusion: LDL-apheresis is an effective treatment for removing atherogenic factors RLP-C, CRP and MDA-LDL from sera.

CC Genetics - Human 03508

Clinical biochemistry - General methods and applications 10006

Biochemistry studies - Proteins, peptides and amino acids 10064

Biochemistry studies - Lipids 10066

Biochemistry studies - Sterols and steroids 10067

Pathology - General 12502

Pathology - Therapy 12512

Metabolism - General metabolism and metabolic pathways 13002

Metabolism - Metabolic disorders 13020

Blood - Blood and lymph studies 15002

Blood - Blood cell studies 15004

IT Major Concepts

Clinical Chemistry (Allied Medical Sciences); Human Medicine (Medical Sciences); Metabolism; Methods and Techniques

IT Parts, Structures, & Systems of Organisms

serum: blood and lymphatics

IT Diseases

familial hypercholesterolemia: genetic disease, metabolic disease  
Hypercholesterolemia, Familial (MeSH)

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IT Chemicals & Biochemicals

C-reactive protein; HDL-cholesterol [high-density lipoprotein-cholesterol]; TG [triglyceride]; low-density lipoprotein-cholesterol; malondialdehyde-modified-low-density lipoprotein; remnant-like particle-cholesterol; single low-density lipoprotein-apheresis: therapeutic method; total cholesterol

ORGN Classifier

Hominidae 86215

Super Taxa

Primates; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

human: Japanese, patient

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

IT Chemicals & Biochemicals

C-reactive protein; HDL-cholesterol [high-density lipoprotein-cholesterol]; TG [triglyceride]; low-density lipoprotein-cholesterol; malondialdehyde-modified-low-density lipoprotein; remnant-like particle-cholesterol; single low-density lipoprotein-apheresis: therapeutic method; total cholesterol

ORGN Classifier

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Primates; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

human: Japanese, patient

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

ANSWER 3 OF 7 MEDLINE on STN

AN 97174657 MEDLINE

DN PubMed ID: 9022342

TI Determination of malondialdehyde-modified LDL(MDA-LDL) and its potential usefulness.

AU Kotani K; Kondo A; Manabe M; Maekawa M; Kanno T

CS Department of Laboratory Medicine, Hamamatsu University School of Medicine.

SO Rinsho byori. The Japanese journal of clinical pathology, (1997 Jan) Vol. 45, No. 1, pp. 47-54.

Journal code: 2984781R. ISSN: 0047-1860.

CY Japan

DT Journal; Article; (JOURNAL ARTICLE)

LA Japanese

FS Priority Journals

EM 199702

ED Entered STN: 6 Mar 1997  
 Last Updated on STN: 6 Mar 1997  
 Entered Medline: 26 Feb 1997

AB Numerous studies have indicated that oxidative modification of low-density lipoprotein(LDL) plays a critical role in the pathogenesis of atherosclerosis. Malondialdehyde-modified LDL(MDA-LDL) is one of the candidates which is the oxidative product of LDL. However, the existence of MDA-LDL in the circulation has been in dispute. Therefore, for the assessment of oxidized-LDL in human serum, we developed a sensitive enzyme-linked-immunosorbent assay(ELISA) for the detection of MDA-LDL. In our method, monoclonal antibody against MDA-LDL, ML25  
was used. ML25 recognized MDA-LDL as well as MDA-modified  
proteins by a solid-phase competitive enzyme immunoassay. Therefore, to establish an ELISA method which is specific for detection of MDA-LDL, ML25 was combined with apoB-specific antibody (AB16) as the second antibody. Using this method, MDA-LDL was detectable in the sera of 314 healthy individuals. The concentration of MDA-LDL preferably ranged from 20 to 80 units/l when the absorbance with artificially prepared MDA-LDL at the concentration of 1 mg/l was defined as 1 unit/l. Furthermore, assays for lipoprotein subfractions separated by density-gradient ultracentrifugation revealed that MDA-LDL was mainly distributed in the LDL fraction as expected, and MDA-LDL/apoB ratio showed a peak at small, dense LDL fractions. This finding seems to be quite interesting since an elevated level of small, dense LDL has been reported to be associated with an increased risk of atherosclerosis. We concluded that our method is useful for specific detection of MDA-LDL in human serum and might be an elevation method for atherogenicity.

CT Arteriosclerosis: BL, blood  
 Arteriosclerosis: ET, etiology  
 English Abstract  
 Enzyme-Linked Immunosorbent Assay  
 Humans  
 Lipoproteins, LDL: BL, blood  
 \*Lipoproteins, LDL: ME, metabolism  
 \*Malondialdehyde: ME, metabolism  
 Oxidation-Reduction  
 Risk

RN 542-78-9 (Malondialdehyde)

CN 0 (Lipoproteins, LDL)

L2 ANSWER 4 OF 7 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN  
 DUPLICATE 2

AN 1994:452208 BIOSIS

DN PREV199497465208

TI Inhibitory effect of recombinant fibronectin polypeptides on the adhesion of liver-metastatic lymphoma cells to hepatic sinusoidal endothelial cells and tumor invasion.

AU Yoneda, Junya; Saiki, Ikuo [Reprint author]; Kobayashi, Hideo; Fujii,

ANSWER 3 OF 7 MEDLINE on STN

AN 97174657 MEDLINE

DN PubMed ID: 9022342

TI Determination of malondialdehyde-modified LDL(MDA-LDL) and its potential usefulness.

AU Kotani K; Kondo A; Manabe M; Maekawa M; Kanno T

CS Department of Laboratory Medicine, Hamamatsu University School of Medicine.

SO Rinsho byori. The Japanese journal of clinical pathology, (1997 Jan) Vol. 45, No. 1, pp. 47-54.

Journal code: 2984781R. ISSN: 0047-1860.

CY Japan

DT Journal; Article; (JOURNAL ARTICLE)

LA Japanese

FS Priority Journals

EM 199702

ED Entered STN: 6 Mar 1997

Last Updated on STN: 6 Mar 1997

Entered Medline: 26 Feb 1997

AB Numerous studies have indicated that oxidative modification of low-density lipoprotein(LDL) plays a critical role in the pathogenesis of atherosclerosis. Malondialdehyde-modified LDL(MDA-LDL) is one of the candidates which is the oxidative product of LDL. However, the existence of MDA-LDL in the circulation has been in dispute. Therefore, for the assessment of oxidized-LDL in human serum, we developed a sensitive enzyme-linked-immunosorbent assay(ELISA) for the detection of MDA-LDL. In our method, monoclonal antibody against MDA-LDL, ML25 was used. ML25 recognized MDA-LDL as well as MDA-modified proteins by a solid-phase competitive enzyme immunoassay. Therefore, to establish an ELISA method which is specific for detection of MDA-LDL, ML25 was combined with apoB-specific antibody (AB16) as the second antibody. Using this method, MDA-LDL was detectable in the sera of 314 healthy individuals. The concentration of MDA-LDL preferably ranged from 20 to 80 units/l when the absorbance with artificially prepared MDA-LDL at the concentration of 1 mg/l was defined as 1 unit/l. Furthermore, assays for lipoprotein subfractions separated by density-gradient ultracentrifugation revealed that MDA-LDL was mainly distributed in the LDL fraction as expected, and MDA-LDL/apoB ratio showed a peak at small, dense LDL fractions. This finding seems to be quite interesting since an elevated level of small, dense LDL has been reported to be associated with an increased risk of atherosclerosis. We concluded that our method is useful for specific detection of MDA-LDL in human serum and might be an elevation method for atherogenicity.

CT Arteriosclerosis: BL, blood

Arteriosclerosis: ET, etiology

English Abstract

Enzyme-Linked Immunosorbent Assay

Humans

Lipoproteins, LDL: BL, blood

\*Lipoproteins, LDL: ME, metabolism

\*Malondialdehyde: ME, metabolism

Oxidation-Reduction

Risk

RN 542-78-9 (Malondialdehyde)

CN 0 (Lipoproteins, LDL)

L2 ANSWER 4 OF 7 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 2

AN 1994:452208 BIOSIS

DN PREV199497465208

TI Inhibitory effect of recombinant fibronectin polypeptides on the adhesion of liver-metastatic lymphoma cells to hepatic sinusoidal endothelial cells and tumor invasion.

AU Yoneda, Junya; Saiki, Ikuo [Reprint author]; Kobayashi, Hideo; Fujii,

Hideki; Ishizaki, Yukuo; Kato, Ikunoshin; Kiso, Makoto; Hasegawa, Akira; Azuma, Ichiro

CS Dep. Patho-Biochem., Res. Inst. Wakan-yaku, Toyama Med. Pharmaceutical Univ., 2630 Sugitani, Toyama 930-01, Japan

SO Japanese Journal of Cancer Research, (1994) Vol. 85, No. 7, pp. 723-734. CODEN: JJCREP. ISSN: 0910-5050.

DT Article

LA English

ED Entered STN: 24 Oct 1994

Last Updated on STN: 24 Oct 1994

AB We have investigated the inhibitory mechanism of the initial arrest of L5178Y-ML25 lymphoma cells in a target organ (liver) by using recombinant fibronectin fragments with cell- and/or heparin-binding domains (C-274, H-271 or the fusion fragment CH-271). Pretreatment of hepatic sinusoidal endothelial (HSE) cell monolayers with lymphoma cells or their conditioned medium for 4 to 6 h resulted in the enhancement of lymphoma cell adhesion to HSE cell monolayer. The increased tumor adhesiveness was completely abolished by preincubation of the conditioned medium with anti interleukin-1-beta monoclonal antibody (mAb). Synthetic sialyl Le-x (SL-e) as a ligand for endothelial cell leukocyte adhesion molecule-1 (ELAM-1) adhesion receptor and anti ELAM-1 mAb blocked the conditioned medium-induced enhancement of tumor-endothelial cell interaction, while pretreatment of the activated HSE cell monolayer with anti vascular cell adhesion molecule-1 (VCAM-1) mAb did not affect the enhanced tumor cell adhesion. These results indicate that tumor cell interaction with the stimulated HSE cells is mediated by ELAM-1 molecules on HSE cells. However, the expression of SLe-x and SLe-a on the tumor surface was not observed by flow cytometric analysis. ELAM-1-mediated enhancement of tumor cell adhesion to HSE monolayer was also inhibited in a concentration-dependent manner by CH-271 fusion polypeptide or the sulfated chitin derivative sulfated carboxymethyl-chitin, which can bind to the heparin-binding domain of CH-271. In addition, CH-271 inhibited not only tumor-endothelium interaction but also tumor cell invasion into reconstituted basement membrane Matrigel in vitro.

CC Cytology - Animal 02506  
 Biochemistry studies - Proteins, peptides and amino acids 10064  
 Biophysics - Membrane phenomena 10508  
 Digestive system - Pathology 14006  
 Blood - Blood cell studies 15004  
 Blood - Lymphatic tissue and reticuloendothelial system 15008  
 Neoplasms - Pathology, clinical aspects and systemic effects 24004

IT Major Concepts  
 Blood and Lymphatics (Transport and Circulation); Cell Biology;  
 Digestive System (Ingestion and Assimilation); Membranes (Cell Biology); Tumor Biology

IT Miscellaneous Descriptors  
 BASEMENT MEMBRANE; ENDOTHELIAL CELL LEUKOCYTE ADHESION MOLECULE-1;  
 LYMPHOMA CELL ADHESION

ORGN Classifier  
 Muridae 86375  
 Super Taxa  
 Rodentia; Mammalia; Vertebrata; Chordata; Animalia  
 Organism Name  
 mouse  
 Taxa Notes  
 Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals, Rodents, Vertebrates

NOT antibody

Hideki; Ishizaki, Yukuo; Kato, Ikunoshin; Kiso, Makoto; Hasegawa, Akira; Azuma, Ichiro

CS Dep. Patho-Biochem., Res. Inst. Wakan-yaku, Toyama Med. Pharmaceutical Univ., 2630 Sugitani, Toyama 930-01, Japan

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 Organism Name  
 mouse  
 Taxa Notes  
 Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals,  
 Rodents, Vertebrates

*Not antibody*

AN 1997:597809 CAPLUS

DN 127:245083

ED Entered STN: 18 Sep 1997

TI Immunological measurement of malondialdehyde-modified low-density lipoprotein (MDA-LDL)

AU Kotani, Kazuo; Kondo, Akira; Manabe, Mitsuhsa; Maekawa, Masato; Kanno, Takashi

CS Dep. Lab. Med., Hamamatsu Univ. Sch. Med., Hamamatsu, 431-31, Japan

SO Seibutsu Shiryo Bunseki (1997), 20(2), 111-118

CODEN: SSBUEL; ISSN: 0913-3763

PB Seibutsu Shiryo Bunseki Kagakkai

DT Journal

LA Japanese

CC 9-10 (Biochemical Methods)

AB Although oxidized low-d. lipoprotein (LDL) is considered to play a critical role in the pathogenesis of atherosclerosis, the existence of malondialdehyde (MDA)-modified LDL (MDA-LDL) in the circulation has been in dispute. Therefore, for the assessment of oxidized-LDL in human serum, we developed a sensitive enzyme-linked immunosorbent assay (ELISA) for the detection of MDA-LDL. In our method, monoclonal antibody against MDA-LDL, ML25 was used. The competitive EIA technique showed that ML25 recognized MDA-LDL as well as MDA-modified protein, but did not cross-react with proteins modified by 4-hydroxynoneal, glycolaldehyde and caproic aldehyde which considered as highly reactive breakdown products of lipid peroxidn. Therefore, the combination of ML25 with apoB-specific antibody (AB16) as the second antibody allowed us to establish an ELISA method which is specific for detection of MDA-LDL. By using this ELISA system, it was possible to obtain dose-dependent response with MDA-LDL prepared artificially in vitro. MDA-LDL in human serum was not detectable in this ELISA system, unless SDS was included in reaction mixts. These results suggest that the epitopes recognized by ML25 could be exposed by the effects of SDS, which allows the epitope to react with ML25. Under the assay condition, MDA-LDL was detected in 314 healthy individuals. The concentration of MDA-LDL preferably ranged from 20 to 80 units/L when the absorbance with artificially prepared MDA-LDL at the concentration

of 1 mg/L was defined as 1 unit/L. We concluded that our method is useful for studying the possible role of serum MDA-LDL in the pathogenesis of atherosclerosis and might be an evaluation method for atherogenicity.

ST immunol malondialdehyde LDL lipoprotein

IT Immunoassay

(enzyme-linked immunosorbent assay; immunol. measurement of malondialdehyde-modified low-d. lipoprotein (MDA-LDL))

IT Lipoproteins

RL: ANT (Analyte); ANST (Analytical study)

(low-d., malondialdehyde-modified; immunol. measurement of malondialdehyde-modified low-d. lipoprotein (MDA-LDL))

IT Lipoproteins

RL: ANT (Analyte); ANST (Analytical study)

(low-d., oxidized; immunol. measurement of malondialdehyde-modified low-d. lipoprotein (MDA-LDL))



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SO Seibutsu Shiryo Bunseki (1997), 20(2), 111-118

CODEN: SSBUEL; ISSN: 0913-3763

PB Seibutsu Shiryo Bunseki Kagakkai

DT Journal

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ST immunol malondialdehyde LDL lipoprotein

IT Immunoassay

(enzyme-linked immunosorbent assay; immunol. measurement of malondialdehyde-modified low-d. lipoprotein (MDA-LDL))

IT Lipoproteins

RL: ANT (Analyte); ANST (Analytical study)

(low-d., malondialdehyde-modified; immunol. measurement of malondialdehyde-modified low-d. lipoprotein (MDA-LDL))

IT Lipoproteins

RL: ANT (Analyte); ANST (Analytical study)

(low-d., oxidized; immunol. measurement of malondialdehyde-modified low-d. lipoprotein (MDA-LDL))

DUPLICATE 1

AN 2002:413901 BIOSIS

DN PREV200200413901

TI Single LDL apheresis improves serum remnant-like particle-cholesterol, C-reactive protein, and malondialdehyde-modified-low-density lipoprotein concentrations in Japanese hypercholesterolemic subjects.

AU Kobayashi, Junji [Reprint author]; Katsube, Susumu; Shimoda, Mayumi; Furuhashi, Kenji; Kitano, Shouichi; Masuda, Mizue; Maruyama, Tokiko; Shinomiya, Masaki

CS Department of Internal Medicine, Chibaken Saiseikai Narashino Hospital, 1-1-1 Izumi Chou, Narashino, Chiba, 275-0006, Japan  
maryland95@angel.ne.jp

SO Clinica Chimica Acta, (July, 2002) Vol. 321, No. 1-2, pp. 107-112. print.  
CODEN: CCATAR. ISSN: 0009-8981.

DT Article

LA English

ED Entered STN: 31 Jul 2002

Last Updated on STN: 31 Jul 2002

AB Background: Single low-density lipoprotein (LDL)-apheresis may affect serum remnant-like particle-cholesterol (RLP-C), C-reactive protein (CRP) and malondialdehyde-modified (MDA)-LDL concentrations. Subjects and methods: Six subjects with hypercholesterolemia (five men, one woman) were involved in this study. Mean age and body mass index of the study subjects were 58 $\pm$ 3.1 years and 23.6 $\pm$ 2.07 kg/m<sup>2</sup>, respectively. Five of the subjects were diagnosed as heterozygous familial hypercholesterolemia (FH) because of having both marked hypercholesterolemia and Achilles tendon xanthomas. LDL apheresis was introduced and continued using a dextran sulfate cellulose adsorption column technique every 2 weeks. Serum RLP-C was measured using an immunoaffinity mixed gel containing anti-apolipoprotein A-I and anti-apolipoprotein B monoclonal antibody. Serum CRP was measured by latex-enhanced assay. Serum MDA-LDL was measured using monoclonal antibody against MDA-LDL (ML25). Results: Combined treatment in the steady state pre-treatment yielded a total, LDL- and HDL-cholesterol, and TG concentrations of 5.39 $\pm$ 0.81, 3.82 $\pm$ 1.03, 1.24 $\pm$ 0.29 and 0.92 $\pm$ 0.43 mmol/l, respectively, and a post-treatment total, LDL- and HDL-cholesterol and TG concentrations of 2.79 $\pm$ 0.37 (-48%, p<0.001), 1.63 $\pm$ 0.29 (-57%, p<0.001), 1.18 $\pm$ 0.26 (-5%, NS) and 0.23 $\pm$ 0.11 mmol/l (-75%, p<0.001), respectively. Serum RLP-C and CRP concentrations showed a substantial reduction (-73%, p<0.05 for RLP-C; -56%, p<0.05 for CRP) during this procedure. In addition, LDL apheresis was found to also cause a marked reduction in serum MDA-LDL concentration (-61%, p<0.05). Conclusion: LDL-apheresis is an effective treatment for removing atherogenic factors RLP-C, CRP and MDA-LDL from sera.

CC Genetics - Human 03508

Clinical biochemistry - General methods and applications 10006

Biochemistry studies - Proteins, peptides and amino acids 10064

Biochemistry studies - Lipids 10066

Biochemistry studies - Sterols and steroids 10067

Pathology - General 12502

Pathology - Therapy 12512

Metabolism - General metabolism and metabolic pathways 13002

Metabolism - Metabolic disorders 13020

Blood - Blood and lymph studies 15002

Blood - Blood cell studies 15004

IT Major Concepts

Clinical Chemistry (Allied Medical Sciences); Human Medicine (Medical Sciences); Metabolism; Methods and Techniques

IT Parts, Structures, &amp; Systems of Organisms

serum: blood and lymphatics

IT Diseases

familial hypercholesterolemia: genetic disease, metabolic disease  
Hypercholesterolemia, Familial (MeSH)